

RESTORATION

Collaborating to Enhance Habitat for the Montezuma Quail

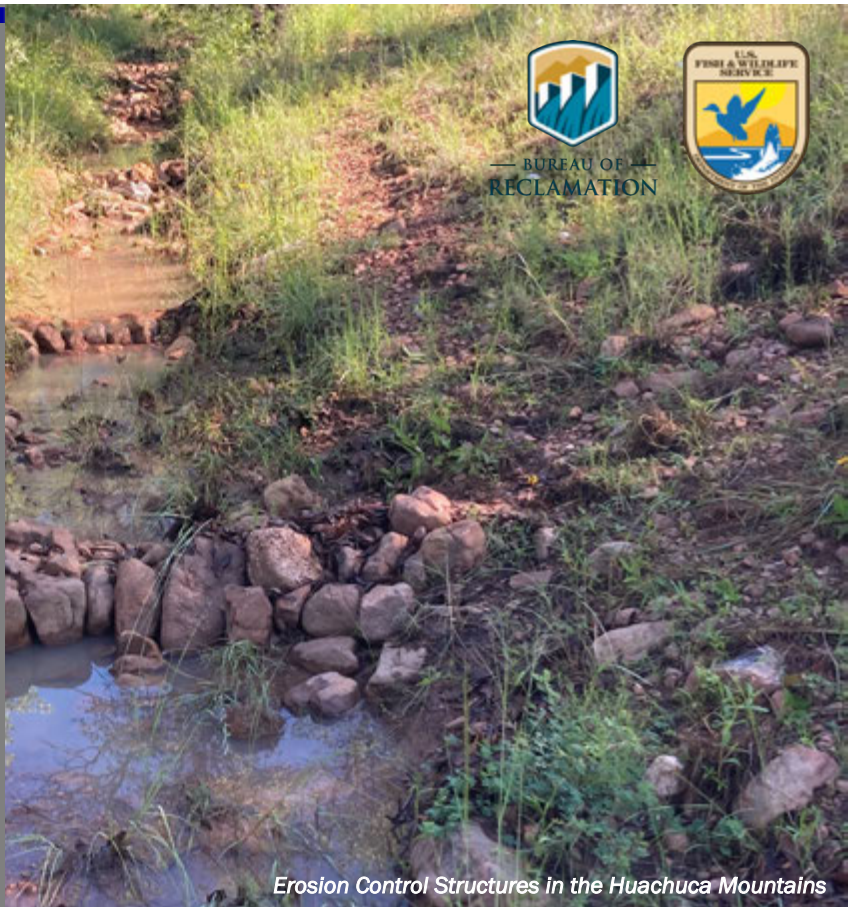
BORDERLANDS
RESTORATION
NETWORK

SONORAN
JOINT VENTURE

The Montezuma quail (*Cyrtonyx montezumae*) is a species of concern in Southern Arizona. Climate change and other land use pressures are reducing suitable habitat for the quail. Sonoran Joint Venture (SJV), Borderlands Restoration Network (BRN), and Southern Arizona Quail Forever (SAQF) began collaborating in 2019 on the Borderlands Wildlife Preserve (BWP) on a project to improve suitable habitat for the Montezuma quail. A year later in 2020 the National Forest Foundation (NFF) and SAQF began implementing a second Montezuma quail habitat restoration project in the Huachuca Mountains based on the project at BWP. These collaborations led to the construction of over 1,200 erosion control structures and the planting of 21 pounds of native seed.



Project Location



Erosion Control Structures in the Huachuca Mountains

KEY ISSUES ADDRESSED

Historic overgrazing and the development of roads and infrastructure have reduced vegetation cover on parts of the BWP. Because plants physically slow water flow and stabilize soils with their roots, decreased plant cover results in quickening erosion processes. Increased erosion leads to further decreases in vegetation populations and downcutting in washes and arroyos. Downcutting in washes and climate change have reduced the extent of wet microclimates that support forage species critical to Montezuma quail survival. Lack of organizational capacity and limited funding are additional challenges to Montezuma quail conservation.

PROJECT GOALS

- Implement erosion control rock structures and expand native vegetation to increase quail habitat and forage
- Increase community engagement and land management education through collaboration
- Support partnerships that help raise match funds for collaborative projects

DISTANCE AND CAPACITY

Developing local capacity is more effective than traveling long distances to restoration sites. Without local capacity, consider if the importance of the restoration work is worth the added travel time.



Volunteers Building Erosion Control Structures at the BWP

PROJECT HIGHLIGHTS

One Rock at a Time: Volunteers built 250 erosion control structures on BWP and over a thousand structures in the Huachuclas. These rock structures consisted mainly of one-rock high dams and Zuni bowls which are used to decrease abrupt vertical drops that cause increased soil erosion in small drainages.

Seeding for Quail: Volunteers and land management staff planted seed pellets which reduced soil erosion and enhanced biological diversity. In total, they distributed eight pounds of seed on BWP and thirteen pounds of seed in the Huachuclas.

Volunteers for Heavy Lifting: Volunteers contributed over 100 hours to BWP. The program in the Huachuclas engaged 16 paid youth interns and multiple volunteers across 18 total volunteer days.

Collaborating to Help the Quail: Tucson Audubon Society (TAS) collaborated with SJV on surveys monitoring the prevalence of quail and other birds. The surveys documented bird populations across drainages where erosion control structures were implemented and where they were not. SAQF provided the volunteers necessary to implement habitat restoration for the Montezuma quail.

Collaborators

- Borderlands Restoration Network
- Sonoran Joint Venture
- Southern Arizona Quail Forever
- Tucson Audubon Society

CCAST Author: Maya Tainatongo, University of Arizona, May 2022.

Photos courtesy of BRN

For more information on CCAST, contact Genevieve Johnson (gjohnson@usbr.gov) or Matt Grabau (matthew_grabau@fws.gov).

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LESSONS LEARNED

Collaboration was a major component of the projects in both the Huachucla Mountains and in the BWP. BRN partnered with both environmental organizations and hunting groups like SAQF. The collaboration between multiple organizations with a shared goal of protecting and respecting the land has built unexpected connections between organizations with different points of view. SAQF mobilized volunteers, while TAS provided bird surveying techniques and supplied volunteers for the surveys.

While collaboration between organizations greatly assisted the project, the distance of the Huachucla project made it difficult and time-consuming to transport volunteers and staff to the work site. Because of this, focusing efforts closer to home maximizes time and volunteers available to help.

Habitat restoration techniques like introducing native seeds and building erosion control structures are simple techniques that anyone can implement. However, landscape-level ecological restoration requires knowledge of the water flows of the landscape. At BWP, understanding water flows helped inform land management agencies about the best areas to execute land restoration techniques.

NEXT STEPS

- Continue implementing land restoration techniques in the Huachuclas including dispersing five pounds of native seed and constructing 250 erosion control structures
- Increase youth participation through internships
- Increase volunteer days in collaboration with SAQF

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Volunteer Meeting Before Restoration Work Begins at the BWP